

ABSTRACT

Disclosed is a method of manufacturing the flash memory device. The method comprises the steps of sequentially forming a tunnel oxide film, a first polysilicon film and a hard mask film on a semiconductor substrate, etching portions of the hard mask film, the first polysilicon film, the tunnel oxide film and the semiconductor substrate through a patterning process to form a trench within the semiconductor substrate, depositing an oxide film to bury the trench and then polishing the oxide film by means of a chemical mechanical polishing process until the hard mask film is exposed, removing the hard mask film, implementing a cleaning process so that a protrusion of the oxide film is recessed to an extent that the sidewall bottom of the first polysilicon film is not exposed, depositing a second polysilicon film on the results in which the protrusion of the oxide film is recessed and then polishing the second polysilicon film until the protrusion of the oxide film is exposed, forming a dielectric film on the second polysilicon film, and forming a control gate on the dielectric film.